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The Cleveland Health Museum Comes of Age

BRUNO GEBHARD,[1] M.D.

PUBLIC health, like medicine, cannot be practised without health education. Neither the health officer nor the sanitarian, the doctor or the nurse, can do without the confidence and co-operation of the public, or their patients. Health education can be good, bad or indifferent. There can be too much of it, especially when there are not enough service facilities, or there might be too little, as shown in the current rejection of fluoridation. Methods and techniques in health education are not yet as standardized as those used in the laboratories or by the statistician or the epidemiologist. Despite all the lip service given to education generally in the North American countries health education—especially in official agencies—seldom gets its proportionate share. The health educator is a child of our present generation and has not yet fully been adopted as a member of the public health team. Here and there teacher training makes health education an integrated part of the curriculum in schools and colleges but in most places health education is set apart as a special subject. Adult health education, which might better be called community health education, all too often is used as a cover-up for publicity and public relations, both very necessary, or as a camouflage for money-raising projects, or even for electioneering.

Health education means many things to many people in public health and public health would not have made such progress in the last fifty years without the efforts in health education. Too often health education lacks continuity, does not have long-range planning, depends too much on mass media, does not take advantage of new methods and techniques, especially in the audio-visual field and last, but by no means least, is not enough "consumer oriented" and does too much education by way of "telling people what not to do". A health museum is not a panacea for deficiency in present-day health education but it is a permanent place for health information, operating 360 days of the

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year. It is a place for continued education for young and old alike. People go to a museum on their own initiative when they feel the need for information and are willing to take in the amount and the dose they feel the need of. A health museum is to the public health field what the hospital is in medicine. It is a place for private self information in all matters of health.

New ventures in health education have been initiated in the past and practised in the present more by voluntary than by official health agencies. There are the usual exceptions, especially in Canada, and we, "south of the border" admire the work of the National Film Board, the exhibits of the Department of National Health and Welfare, and the sound administrative activities of the local and provincial health departments. Jules Gilbert's publication "Éducation Sanitaire" is a historic milestone in the theory and practice of health education for the French-speaking parts of Canada.

It has always puzzled me why the North American countries, with their flair for fairs and shows, as demonstrated so successfully in the recent "Mediscope '59" in Toronto, have been trailing behind European development in science museums generally, and in our own field of health museums. We have tried to trace this development previously (1) (2). There are now four independent health museums in the United States and an increasing number of science museums which include "Halls of Man and Medicine" or "Galleries of Health" in their exhibits. This surely indicates an increasing acceptance of this new medium in health education in this country. We are in touch with about six other large metropolitan areas where the setting up of a health museum is under study. As in many other ways, Russia is perhaps ahead of us in having integrated health education, both in the daily practice of medicine and in public health generally. We have been told, however, by visiting friends that Russian health museums, which supposedly number more than two hundred, have exhibits of a poor quality.

The history of the Cleveland Health Museum is still a short one. Incorporated in December 1936, its doors were opened to the public in November 1940. In our own publications (3) and in other places, we have reported our operations and activities during these twenty years (4) (5). As far as health education can be measured in facts, figures and dollars, Table I gives the main data on our activities.

TABLE 1—Cleveland Health Museum

	Expense	Attendance	Membership	Staff
1940	$25,000	37,256	853	7
1950	$106,000	46,937	1,857	15
1958	$203,000	86,598	5,329	20

How to get a health museum started is a question often brought up by many professional visitors from all over the world. One of our own Board members, who served for many years as our public relations consultant, has made many valued suggestions (6). Our Cleveland experience is not suggested as a pattern necessarily to be copied, but some aspects have been already helpfully used by other organizations.

What comes first? Surely not the building but a small group of devoted people with a sound basic philosophy and a belief in the betterment of human welfare. We started in 1940 in an old family mansion which we outgrew in five years and then moved and remodeled a second large private home which had enough parking space.

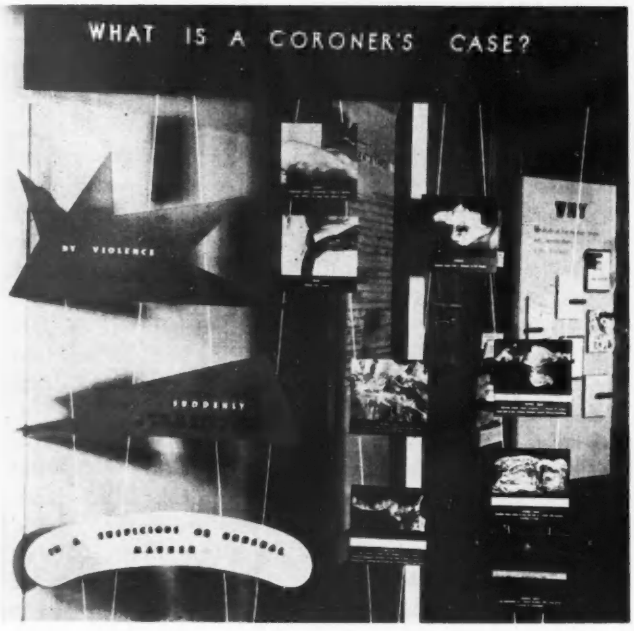
Most museums come into existence as the brain-child of individuals and not as a product of an organization or by government decree. The famous British Museum started out as the private collection of Dr. Hans Sloane. Professional support and financing out of tax sources, usually follows after years of demonstrating that a health museum—or for that matter any museum—is the answer for a "felt need" or does some good for the community. The spade work in Cleveland was begun in 1936 by the Academy of Medicine. At that time the depression was not yet over, there were too many empty beds in hospitals, Blue Cross insurance covered only a very few, the March of Dimes and many other health agencies were not yet heard of. Why then was a health museum started? Because the Academy wanted a planned year-around health education program, the Health Council members of the Welfare Federation wanted more films, slides, exhibits, besides what was available from official, or commercial sources, and both groups wanted the new agency financed by broad community participation in order to make the "laity" feel that it had its part in the new venture. Nearly 900 people underwrote a minimum annual membership of ten dollars and upwards to $20,000 for the first year of operation.

Museums, like colleges, cannot live on memberships or tuition, they need endowments. In 1944 we became one of the recipients of the Elisabeth Severance Prentiss Trust Fund, which amounts to the equivalent of a million dollar endowment fund.

As we said before, it is neither money, nor building, but it is a program executed by a competent staff, exhibits and educational activities which make a museum. Our program, as expressed in our Charter of Incorporation, reads: "To educate the public in matters of health." In other words, a health museum is not a watered-down medical museum.

What is there to see in a health museum? Any museum is a place where one goes to see what one has only heard or read about. As hygiene is nothing else than applied biology, and as biological illiteracy is still widespread, even among college graduates, our more or less permanent exhibits deal with the normal growth and development of the human body. In some way the transparent plastic figure in life-size, originated by the German Health Museum in Dresden in 1930, has become a symbol of health museums. A special feature at the Cleveland Health Museum is the many sculptured models dealing with human reproduction, a creation of Robert L. Dickinson (1861–1950) and used extensively in our Family Life Education program, both with public and parochial schools. Duplicates of this series are made available, besides, to museums, to many schools, colleges and universities in the United States and Canada, and they are used in the University of Winnipeg and in Halifax (7).

Our more or less permanent exhibitions include nutrition and dental health. Emphasis is placed on those subjects where people can do something for



(Left) Illustrating cases where a coroner's services are required.

(Below) Showing how doctors help to prevent accidental poisonings.

SPECIAL EXHIBITS AT THE CLEVELAND HEALTH MUSEUM

themselves. Favourite ones are those dealing with the "Five Senses" where people can check their hearing, their eyesight and the possibility of colour blindness.

No museum would be large enough to feature all subjects of health and hygiene at the same time. Special exhibits are, therefore, scheduled for about two months' duration, four times a year. Over the years they have included such subjects as "Rays of Hope" (the story of X-ray)—"Whodunnit" (Forensic medicine)—"Fun in the Sun and at the Sea", and "Physicians' Hobby Show". The last one for this year was entitled "Who's Zoo in Medicine" and dealt with animals as pets, pests and in research. The small animals on display, from guinea pigs to a Rhesus monkey, were a delight to our youthful visitors. Last year a special exhibition on "Man in Space" drew nearly 10,000 visitors in two and one-half months and afterwards toured several cities in the United States.

A health museum can be very helpful in activating new community projects. On the request of our Welfare Federation and with the help of local foundations, we organized an extensive exhibition on geriatrics, under the title "Live Long and Like It." Part of this activity was also the first "Golden Age Hobby Show." Since that time (1946) many clubs for elderly citizens have been established under the name of Live Long and Like It Clubs. In a similar way, our exhibition "Alcoholism is a Disease", held in 1954, led to a wider acceptance of this problem in the community and resulted in the establishment of a Cleveland Center on Alcoholism.

There is always the danger that a museum can become, sooner or later, a mausoleum but this can be avoided by a museum policy that does not shy away from exhibiting so-called controversial subjects, as fluoridation, races of mankind, or the relationship of smoking and lung cancer. A health museum should keep up-to-date and we do it partly by what might be called "headline exhibits", as the one on the Asian Flu during the last epidemic. Such an exhibits program necessitates a staff of well-trained artists and craftsmen who can design and construct such material in co-operation with the members of our education department. Our workshops, as well as building exhibits, also produce illustrations, supply materials and visual aids for television. Future museums should be well equipped along this line, as far too little is done in health education via the television screen to counteract the misinformation supplied by commercial advertisers.

In medical and public health circles it is often overlooked that the business of education can be done best by well trained educators who have made it their life-time business to teach. Headed by Winfield Doyle, who has a Doctor's degree in Education (Columbia University), our educational staff of five instructors includes two teachers assigned to us from public school systems who work at the Museum with school groups from their respective systems. In 1959 the number of these groups came close to seven hundred. In "Field Trips with a Difference", available free on request, our educational program both with school and adult groups has been described in detail. Adult groups, from college students to senior citizens' clubs, include those concerned with special projects as weight reduction and natural childbirth. Training of health educators is not our main business, but we offer our facilities to graduate

students on an "intern" basis for which also a fellowship grant of $500.00 is available from our Women's Committee.

The future of health museums might be in many directions. In the United States general museums for the public and science museums are increasingly including health exhibits in their collections. Professional and public interests presently are pre-occupied with questions like "How to pay the bills of doctors, dentists and hospitals" but here and there the importance of patient education is taken seriously. One health museum has been established as a part of routine hospital activities at the Lankenau Hospital in Ardmore, a suburb of Philadelphia. Another one is housed under the same roof with thirty doctors' and dentists' offices in Hinsdale, Illinois, a suburb of Chicago. This one is sponsored by the Kettering Family Foundation, which is also planning a health museum in connection with a planned new hospital at Dayton, Ohio. We hope that one of the future health museums might be inaugurated on a university campus in connection with the training of teachers, and there is no reason why State or Provincial Health Departments should not establish health museums as health education centers on a regional basis. Plans of this type are being made by the Ministry of Health in India.

The author acknowledges his bias in favour of health museums, but after more than thirty years' experience in this field there is little doubt that health museums have established their place as a successful method of health education.

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THE ASSOCIATION IS HONOURED

On the occasion of the first annual meeting which was held in Montreal in 1911 H.R.H. the Duke of Connaught, Governor-General of Canada, officially inaugurated the Association. In his opening remarks he said: "Of the many subjects which are awaiting solution in Canada, none is so important, to my mind, as that of the health of its inhabitants, both adult and infant . . . Public health is a question which rises above all politics, and it is the duty of the whole nation to join in promoting the objects of the Association."

It is indeed pleasing that Major-General Georges P. Vanier, D.S.O., M.C., C.D., Governor-General of Canada, has honoured the Association by conferring his patronage, thus expressing his interest and support of the Association in its Canada-wide program for the advancement of public health. The Association is deeply appreciative of the Governor-General's patronage.

Venereal Disease Facilitation in Vancouver, British Columbia

ANTHONY A. LARSEN,[1] M.D., D.P.H. and
WARREN J. CUNNINGHAM,[2] M.D.

IN every community there are men and women who, knowingly or unknowingly, contribute to the spread of venereal disease by operating places where healthy and infected people may meet with ease or where unmarried couples may go to have sexual relationship.

The process through which a healthy person is assisted in meeting and having sexual intercourse with someone infected with a venereal disease is called facilitation, and those who permit or encourage such activities are called facilitators. There are witting facilitators who direct men to prostitutes for a fee, or who encourage promiscuous women to frequent their place of business or who rent rooms to single couples knowing full well that they are to be used only for sexual intercourse. There are also facilitators who are not fully aware of the consequences of their actions and who allow their cafes, hotels and beer parlors to be used as places of meeting or exposure through ignorance and lack of interest.

Facilitators have no particular desire to promote the spread of venereal disease. Their prime interest lies in reaping the profits that come from abetting promiscuous sexual relationships. Whether or not the couples they bring together acquire syphilis or gonorrhoea is a matter of complete indifference to them.

The number of people engaged in active facilitation is largely determined by the demand for their services. Whenever unattached males congregate away from the restraining influence of their families problems of this nature are sure to arise. Curiosity, lust, or perhaps nothing more than the need for companionship at any price lead men to the sections of a city where facilitators abound, to the cafes and beer parlors where prostitutes are tolerated and to the hotels where no questions are asked about marital status when they appear with their newly found companions.

Facilitation is also influenced by the number of women who are willing to prostitute. Most female narcotic addicts support their habit through prostitution, so that a city with a high proportion of addicts can be expected to have more than its share of prostitutes. All are eager to use every opportunity to enhance their income.

Lack of personnel often prevents the police from proceeding against facili-

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[2]Interne, Division of Venereal Disease Control 1956–57.

tators in the way that they would like to. Sometimes, too, the unexpressed attitude of a community towards prostitution is reflected in the vigour with which its officials act to suppress it.

An effective program for the control of venereal disease must have many facets, one being the suppression of facilitation. In 1956 the Division of Venereal Disease Control set out to determine the part being played by facilitators in the spread of venereal disease in Vancouver.

The Vancouver Study*

All the male patients who attended any of the Vancouver Clinics of the Division, between September 15, 1956 and March 15, 1958, and who were diagnosed as having acute gonorrhoea were questioned about the circumstances that led to this particular infection. Men who acquired their disease from their wives, through a common-law relationship, or outside of Vancouver were not included. The questions asked were intended to reveal whether or not a facilitator was in any way involved. They were also intended to reveal any illegal action on the part of the management or staff of any beer parlor, cafe or hotel involved. During the 19-month period of this study information was secured from 1,005 consecutive male patients who had acquired gonorrhoea from extra marital intercourse in Vancouver. This constituted about 40% of all reported cases of gonorrhoea during the study period.

The importance of beer parlors, streets and cafes as places of meeting is shown in table I, while table II reveals where most of the exposures take place. The extent to which cars are used for this purpose is worth noting.

TABLE I—Patients infected, by place of meeting

	Beer Parlors	Streets	Cafes	Private Homes	Cabarets	Dance Halls	Hotels	Other	
No.	327	223	187	45	44	31	27	111	1005
%	32.5	22.2	18.6	4.5	4.4	3.1	2.7	11.1	100%

TABLE II—Patients infected, by place of exposure

	Hotels	Rooming Houses	Private Homes	Autos	Other	
No.	488	195	139	124	59	1005
%	46.5	19.4	13.8	12.3	5.9	100%

Not only were beer parlors and cafes the most frequently named places of meeting, but also a mere handful of such establishments were responsible for the majority of reports. Similarly, most of the licensed hotels in Vancouver were not mentioned as places of exposure. Table III shows the worst offenders and the percentage of all meetings and exposures that occurred there.

*Space does not permit a full description of the details of this study. A summary only is presented.

TABLE III—PATIENTS INFECTED, BY TEN MOST FREQUENTLY NAMED PLACES OF MEETING AND EXPOSURE

Meeting						Exposure		
Beer Parlors			Cafes			Hotels		
Name*	Times Named	% of total namings	Name*	Times Named	% of total namings	Name*	Times Named	% of total namings
110	29	16.1	101	33	29.5	103	24	18.9
103	28	15.5	102	25	22.3	107	22	17.3
108	28	15.5	121	12	10.7	115	15	11.8
105	20	11.1	103	10	8.8	143	15	11.8
113	14	7.8	104	8	7.1	118	11	8.7
120	14	7.8	109	8	7.1	101	11	8.7
104	13	7.2	106	5	4.5	151	11	8.7
102	13	7.2	113	4	3.6	119	10	7.9
124	12	6.7	114	4	3.6	106	10	7.9
122	9	5.0	109	3	2.7	139	9	7.1
Total	180	100%		112	100%		127	100%

*Code number.

TABLE IV—PATIENTS INFECTED, BY METHOD OF INTRODUCTION TO CONTACT

Method of introduction	No.	%
Pick-up (patient introduced self to contact)	536	53.3
Acquaintance (patient previously acquainted with contact)	274	27.3
Solicitation (contact introduced self to patient)	85	8.4
Mutual acquaintance (patient and contact introduced by third party)	84	8.3
Procuring (patient introduced by third party unknown to him)	16	1.5
Not stated	10	.9
Total	1005	100%

In order to determine whether or not a third party was involved every patient was also asked about the circumstances surrounding his meeting with the girl who infected him. As can be seen from table IV, there was little evidence of procuring and in most instances it would seem that the patient actively sought out the girl who infected him.

The source of the problem is clearly shown in table V. Beer parlors, streets and cafes in that order are the places in Vancouver where pickups are made, where prostitutes solicit business and where men are introduced to infected girls by mutual friends. In those few instances where the patient was intro-

TABLE V—PATIENTS INFECTED, BY PLACE OF MEETING AND TYPE OF INTRODUCTION

Place	Pick-up		Solicitation		Mutual Acquaint.		Procuring	
Beer Parlor	196	36.6%	29	34.1%	37	44.4%	7	43.7%
Street	129	24.1%	26	30.6%	8	9.5%	1	6.2%
Cafe	110	20.5%	15	17.6%	15	17.8%	2	12.5%
Cabaret	32	6.0%	2	2.3%	2	2.4%	—	—%
Dance Hall	23	4.3%	2	2.3%	1	1.2%	—	—%
Cocktail Lounge	13	2.4%	2	2.3%	1	1.2%	—	—%
Other	33	6.1%	9	10.6%	20	23.8%	6	37.5%
Total	536	100%	85	100%	84	100%	16	100%

TABLE VI—PATIENTS INFECTED, BY PAYMENTS TO FEMALE CONTACTS

Payment	No.	%
Admitted—Cash	99	9.8
—Kind	97	9.7
Denied	759	75.6
Not stated	50	4.9
	1005	100%

TABLE VII—PATIENTS INFECTED, BY OCCUPATION OF CONTACT

Occupation	No.	%
Known to be unemployed	74	7.3
Waitress	44	4.3
Clerical worker	23	2.2
Sales clerk	4	.3
Telephone operator	3	.2
Unknown	859	85.7
Total	1005	100%

duced by a previously unknown third party the meeting most frequently took place in a beer parlor.

Promiscuous females who accept payment in cash or in kind are generally considered to be prostituting, while those who consent to sexual relations without payment are not usually thought of as being prostitutes, even though they may be and often are, responsible for the spread of equally as many cases of venereal disease. Each patient was asked if he had paid his contact or given

her anything in the nature of clothing, a free room or a meal. It is our feeling that this question was answered less truthfully than the others, perhaps because the patient was reluctant to admit that he had paid for his infection. Each patient was also asked if he knew what his contact did for a living. The number who knew nothing about their sexual partners illustrates the casual and transient nature of the relationship.

In British Columbia every beer parlor has a women's section and it is illegal for a man to "cross over" from the men's section or enter the women's section from the street without a female companion. These regulations are intended to discourage prostitutes from using the female side of a beer parlor as a headquarters from which to carry on their business. Every patient who met the girl who infected him while in a beer parlor was asked if he had met her because he had been able to "cross over" or to enter the women's section from the street unescorted. If he admitted to a breach of the regulations he was then asked if he had been challenged by the management. It is very obvious from table VIII that the regulations are not being enforced.

In order to bring to light any evidence of collusion between the contact and the operator of the place where the exposure occurred, each patient was asked who suggested the place of exposure. It can be seen from tables IX and X

TABLE VIII—PATIENTS INFECTED, BY INFRACTIONS OF BEER PARLOR REGULATIONS

	Enter escorted		Enter unescorted		"Crossover"		Infraction challenged	
Yes	125	38.2%	52	15.9%	150	45.9%	0	0%
No	60	18.3%	160	48.9%	107	32.7%	202	61.8%
Not stated	142	43.4%	115	35.1%	70	21.4%	125	38.2%
	327	100%	327	100%	327	100%	327	100%

TABLE IX—PATIENTS INFECTED, BY PERSON SUGGESTING PLACE OF EXPOSURE

	Place of exposure suggested by					
	Patient	Contact	Mutual	Third Party	Not stated	Total
No.	538	96	44	15	312	1005
%	53.5%	9.6%	4.4%	1.5%	3.12%	100%

TABLE X—PATIENTS INFECTED BY PLACE OF EXPOSURE (WHEN SUGGESTED BY CONTACT)

	Places of exposure suggested by contact					
	Hotel	Rooming House	Private Home	Motel	Other	
No.	51	32	10	1	2	96
%	53.2	33.4	10.4	1.0	2.0	100%

that in most instances the patient had a place available, or knew where one could be found and that in less than 10% of the cases was the place of exposure suggested by the contact. When the female contact did suggest a place, however, it was, in nearly every instance, a hotel or rooming house.

It can be seen from table XI that three or four hotels were suggested, far more frequently than any others and one suspects that the infected girls who suggested them were well known to the management.

In a properly operated hotel, the clerk on duty is aware of the entry of all guests and their visitors. If a hotel, rooming house or motel was given as the place of exposure, the patient was asked the time of registration, whether he was without baggage, whether he falsely registered as man and wife, and if the desk clerk seemed to know the contact.

Tables XII and XIII show the ease with which a room can be secured by an unmarried couple in certain hotels and rooming houses and suggests that in many instances the desk clerk was either not carrying out his duties properly or was knowingly allowing rooms to be used for immoral purposes.

TABLE XI—PATIENTS INFECTED, BY HOTELS SUGGESTED BY CONTACT

Hotel Code No.	Infected		Hotel Code No.	Infected		Hotel Code No.	Infected	
	No.	%		No.	%		No.	%
200	12	12.7	145	3	3.2	102	2	2.1
161	11	11.5	221	3	3.2	103	1	1.0
224	10	10.5	159	2	2.1	All Other	23	23.9
100	5	5.3	142	2	2.1	Name Not Given	12	12.7
107	4	4.2	115	3	3.2			
114	3	3.2	110	2	2.1	Total	96	100%

TABLE XII—PATIENTS INFECTED IN HOTELS, AND ROOMING HOUSES, BY RELATIONSHIP BETWEEN DESK CLERK, PATIENT AND CONTACT

Desk Clerk	Aware of Entrance		Challenged Patient		Known to Patient		Apparently known to Contact	
Yes	259	38%	8	1.2%	124	18.2%	39	5.7%
No	280	41%	519	76.1%	407	59.2%	434	63.7%
Not stated	143	21%	155	22.7%	151	22.1%	209	30.6%
Total	682	100%	682	100%	682	100%	682	100%

TABLE XIII—PATIENTS INFECTED IN HOTELS AND ROOMING HOUSES, BY CHECK-IN TIME OF PATIENT AND CONTACT

Time	1	2	3	4	5	6	7	8	9	10	11	12	Not stated
p.m.	0	7	3	3	5	9	11	20	31	78	103	71	242
a.m.	46	17	15	3	6	2	2	0	3	2	1	2	

Discussion and Conclusions

Although no evidence of commercialized prostitution through the operation of bawdy houses was unearthed during the period of the study and procurers did not appear to be responsible for the spread of more than a small number of cases, facilitation appears to be a significant factor in the spread of venereal disease in Vancouver.

"Call girls" were named as sources of infection in only a few instances. Either this class of prostitute is intelligent enough to keep herself free of disease or her male companions are being treated by private physicians who do not report them. In any event they do not constitute a venereal disease problem at this time.

Facilitation, as it exists now in Vanvouver, is not highly organized, but stems from the unwitting indifference of many people and the avarice of a small group which reaps a profit from encouraging prostitution.

Despite the vigorous efforts of those in authority, patients are meeting their infected contacts in beer parlors and cafes and are assisted in doing so by the laxity of the management of many of these places. Not recorded is the fact that some establishments in the same section of the city, often located but a stone's throw from the prime offenders, are seldom if ever named because the management enforces the regulations against "cross over" and "unescorted entry" and refuses to allow women to linger while waiting to be "picked up".

It is difficult to see how soliciting on the street can be completely prevented, although more frequent policing of the streets where this practice occurs would undoubtedly help.

Only the very naïve could ever doubt that the management of the hotels and rooms most frequently named as places of exposure are unaware of what is going on. It is very difficult to prevent hotels from being used for prostitution, yet there are hotels of the same class and in the same part of the city as the worst offenders that are seldom if ever named.

During the course of this study, one of the most frequently named hotels changed ownership. Not one patient reported an infection acquired in this hotel for almost twelve months thereafter because the new management made a determined effort to keep prostitutes out.

In British Columbia the Venereal Disease Suppression Act, quite properly, does not give the city medical officer of health power to take any action against facilitators, but limits his authority to controlling the activities of people with venereal disease in the communicable state. Facilitators who encourage prostitution and who are thereby responsible for the spread of venereal disease can be dealt with quite adequately under the Criminal Code, the Liquor Act and the City Charter, by the Police, Liquor Control Board inspectors and the City License Inspector.

Facilitation can best be controlled through a co-operative effort. The staff of the Venereal Disease Division has the duty of securing accurate information about the situations that arise (with full regard for the absolute necessity of keeping the identity of patients confidential at all times). The other members of the group then have the duty of enforcing the relevant sections of the laws for which they are responsible.

SUMMARY

(1) Facilitation is still a significant factor in the spread of venereal disease in Vancouver.

(2) Houses of prostitution are apparently non-existent and procurers and call girls did not contribute to the spread of infection to any significant extent during the period of this study.

(3) Beer parlors, streets and cafes, in that order, were the principal places of meeting. Two-thirds of all beer parlor meetings followed infractions of the regulations respecting "cross overs" and "unescorted entry" to the female side.

(4) Hotels and rooming houses were the principal places of exposure and there is good evidence to show that the management of many of the offending hotels was frequently aware of the uses to which the rooms were being put.

(5) The medical officer of health has no authority to take any action against facilitators and can only pass on the information obtained to those officials who administer the legislation under which control can be exercised.

(6) Legislation exists through which action can be taken against facilitators when they persist in their actions despite warnings.

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Public Health Nursing in a Changing Environment[1]

ISABEL BLACK,[2] REG. N.

IN 1882 the Provincial Board of Health of Ontario chose as its motto, "Let not the people perish for lack of knowledge"! (1) The current mortality and morbidity rates indicate that since 1882 considerable health knowledge has been disseminated and put into practice. Public health nursing has played no small part in this education. Miss Florence Emory has defined public health nursing as "the contribution of the nurse to the field of preventive medicine, the part she plays in public health work; her service *must* include health teaching; it *may* include bedside nursing" (2). Thirty years ago in his annual report a district medical officer wrote: "The nurse had remarkably good success in educating the public. This was shown best in the breaking down of prejudices so frequently found amongst our people."

Looking back briefly we see that at the turn of the century the Victorian Order of Nurses opened their first branches patterned upon the Queen's Institute of District Nursing in England. Around 1907 specialized services under official and voluntary agencies sprang up. There were nurses for school health, tuberculosis nurses, communicable disease nurses, child welfare and social hygiene nurses. Beginning in 1917 these specialized services gradually evolved into the pattern of generalized public health nursing programs under the direction of a medical officer responsible to a local board of health. This pattern continues today except for a few municipalities where school health services are conducted by boards of education or school boards. Fifteen years ago with the passing of legislation respecting the formation of health units, generalized public health nursing service became available to rural areas as well as urban. Ninety per cent of the population of the province now has some form of community nursing service.

What are the forces in the environment today that are moulding our services? To me, they seem to come under three broad headings: Increased industrialization and urbanization, resulting in a changing family pattern; mounting world tensions and an increase in mental ill health; advances in medical sciences causing population increases in all age groups, especially in the group over 45 years of age.

Increased industrialization and urbanization

Public health nursing is a family health service. An individual is seen in relation to his family, their beliefs and values; in relation to the neighbourhood

[1]Presented at the annual meeting, Ontario Public Health Association, Toronto, Sept. 29, 1959.

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and the community. Although our goal is to keep our visits family-centered, this industrial age militates against both our tradition and ideal. The number of families living in cities has increased from one third of the population to two thirds by 1956. The large extended families of former years are being reduced, generally to the nucleus—the mother, father, and children. Most grandparents, aunts, uncles, no longer live with their families in large rural homes and the security they provided is disappearing. The community agencies are having to assume a new role. Fathers, particularly in the suburbs, are becoming "overnight boarders". Experts in this field state that children are showing the lack of security of a father's guidance. Other families, sometimes termed, "free-floating", are moving about in search of greater economic rewards. The district nurse only becomes acquainted with her families before they are on the move. However, during their brief stay, her familiarity with the "helping" agencies in the community can make her a friend in time of need. Newcomers have been attracted to our province by the increased industrialization. A large percentage are unable to speak English, thus creating a need for bilingual nurses. Interpreters are filling the gap. Rapport, however, is difficult to achieve with a third person interpreting. Enterprising nurses are studying second languages at night school. Health literature written in several languages also helps us.

Increased industrialization has brought about a demand for, and general acceptance of, industrial health services for employees. Emphasis today is being placed on health in general, not merely first aid.

This decade has seen more working mothers. In 1941, one married woman in 20 was in the labour force. In 1951, more than one in 10 had a job (3). In a recent survey of a Grade I suburban classroom it was revealed that half the children wore house keys tied around their necks so that they could let themselves in to their homes. This presents a problem to the public health nurse and teacher in the school when exclusion for illness is indicated. The spread of minor communicable diseases is more difficult to control under these circumstances. If it is important to see the mother at home, do we need to plan time for evening visits? Increased divorces have added to the number of women in the working force. The community nurse in downtown city centers is particularly aware that poor crowded housing conditions are a contributing factor to family maladjustment. She recognizes the well-known fact that if children are to become effective, well adjusted persons they need the love and affection of both parents and feels a responsibility to direct families where they will receive sound guidance, in the early stages of their disharmony. Sociologists have determined that in the area of delinquency the unhappy unbroken home is more damaging than the broken home. Families need help in accepting a more realistic view of marriage and parenthood.

Does this not point up the need for preparation for parenthood in schools or wherever young adolescents can be reached? The nurse in the school has the opportunity to act in a consultant capacity to the teachers of the "Family Living" and "Child Study" courses. The birth of a baby at home provides a golden opportunity to teach the children how life begins, but home deliveries are no longer in fashion. Surveys reveal that high school students are inade-

quately informed about human reproduction and hold numerous misconceptions in this area (4). The lowering marriage age makes this education imperative. Whether it should be given in the home or school, is a moot question. The nurse has an opporunity on home visits and in prenatal classes to guide parents to see their responsibilities in family living. She recognizes that children need an understanding of human relationships and a sense of maturity to meet changing conditions without hysteria.

Mounting world tensions and increase in mental ill-health

This leads into the second trend evident in our present day environment, the increase in mental ill-health which has been termed our Number One health problem. The public health nurse has a front line position in any community mental health program because she has a close personal relationship with families and a ready access to their homes; a privilege to be cherished. She has a significant role to play in case-finding as her advice is sought in times of stress. She can serve as the link between the mental hospital, the mental health clinic and the restoration of the patient to normal life. This has been substantiated in one section of the province where for the past two and a half years, an after-care program has been in effect. The public health department is notified of all admissions so that guidance and support may be given to families during the patient's hospitalization period. Upon request, the public health nurse visits patients selected at the time of their discharge by hospital authorities. Concurrently she contributes to the education of the public to dispel prejudices and to create favourable attitudes in the neighbourhood and the community toward these patients. An integral part of this program is "on-going" in-service education of the nurses with consultation from the hospital psychiatric staff. Related to mental health and public health are alcoholism, suicide and drug addiction. Community nurses are constantly seeking knowledge of illnesses that disturb family relationships and affect the children in an adverse way.

The social sciences have given us an insight into human behaviour and the process called motivation. As a result the nurse has grown in her skills to interview and counsel; there is a beginning awareness of the use of "self" in teaching. The sensitive community nurse would agree with H. L. Dunn, "that communications may be verbal, non-verbal and possibly extra-sensory" (5). She recognizes that effective health teaching involves change in behaviour and attitude with the learner making his own choices and decisions about health matters. Group teaching is playing a more prominent role, particularly in the field of maternal and child health. Mrs. Aline Auerbach is experimenting with a new approach to group education. No didactic teaching is done but the program is focused on areas of common interest in which the material is geared to the potentiality of learning of the individual group members (6).

Population increase in all ages, particularly in the group over 45 years of age

The birthrate, which rose during World War II has continued at this rate, resulting in larger numbers of children and youths. Accordingly the school health service has undergone change. The following are some of the most

apparent changes: a swing away from the periodic health examination by the school physician to a re-entry health examination by the family physician at both the elementary and secondary school levels; closer collaboration with the classroom teacher in maintaining and promoting the health of the students through referral; the demand from rural secondary schools for service. We are at the stage now of examining critically our service in the light of our present-day knowledge of the mental health needs of this age group. Pilot projects on the use of auxiliary workers are being conducted. From these experiments a new pattern for school health service may emerge.

The advances in medical science have brought about an ever-lengthening life span. Community services for the senior citizen are on the increase and will likely continue. Today's nurse is becoming increasingly aware of the total health needs of this section of our population. She is conscious of the need to teach the formation of good health habits, physical and mental, in the early years. A considerable number of the group over 65 suffer with chronic illness. Visiting nurse agencies report a change from short-term care to patients to those with chronic conditions or long-term illnesses. The number of visiting days per patient has increased as a result. Skills and techniques of rehabilitation have been acquired by the visiting nurse that have brought spectacular results in early ambulation and recovery of the patient. Continuity of care is considered to be the greatest unmet need in the control of chronic illness. As one writer aptly put it, "Continuity of care starts with care for continuity". The community nurse can be the link between the hospital and the home, the nursing home and the home. This link is strongest where an attempt is made to secure close personal working relationships. In one Ontario city, the visiting nurse agency has arranged for a member of the staff to be in the local general hospital a part of each day to make rounds with the staff and interview the patients who are being considered for continuing home care. In 2 or 3 cities the referrals are made through the hospital health service of the local health agencies. In all too few municipalities referrals are made in writing or by phone from the hospital to the community nurse. Without a doubt there is a unique role and one long overdue for the public health nurse to play in bridging the gaps in the care of patients. She, together with the health department, can serve as a catalyst for all the various services that have a health role, thus producing the most complete health service to the individual and the community at the lowest possible cost (7).

For the past two years a Pilot Home Care project has been under way in Toronto. Its broad objective is, "To determine methods and costs of furnishing services which will bring to selected patients continuous care and maximum rehabilitation in a home setting." To provide adequate home care, additional services of homemakers and physiotherapists are required. The Ontario Homemakers and Nurses Services Act provides a means of financial assistance through local welfare departments but this legislation has not been implemented everywhere. On referral from the family physician, physiotherapy services through the Canadian Arthritic and Rheumatic Society are available but in 14 counties only. What does the future hold respecting the care of patients at home? Will there be a need for increased services? Do we need to

assess our role in the prevention and control of chronic diseases? There is a growing conviction that through general measures to promote health the public health nurse may prevent some of these illnesses.

The 1958 Public Health Nursing Annual Reports reveal unmet needs in addition to those already mentioned: 1—The need for closer working relationships with family physicians. Dr. Hiscock states "The force of a community health program is decidedly influenced by the strength of the health department's association with the medical profession." Some progress has been noted here, since family physicians have been involved in the school health programs and the after-care programs of the mentally ill. 2—The need to examine our program as it affects the pre-school child. In 1940 the Director of the Division of Maternal and Child Health reported "In view of the significance of this formative period in such matters as habit formation, social adjustment and such related health matters as nutrition and early correction of physical defects, the casual treatment of this group is to be regretted." Apart from sporadic programs in dental care, accident prevention, vision and hearing testing, this age group may still be considered neglected. 3—The need to strengthen and extend our service in the areas of mental health and maternal and child health. 4—The need for research. One writer exhorts us as nurses "to think of it as an epidemiological approach, and to prepare the under-graduate nurse to play a part in conducting it, interpreting it, supporting it and utilizing the findings" (8). We have identified some of our problems and stated needs unmet. Is the answer necessarily more staff? There is now a ratio of 1 community nurse to 3,700 population exclusive of industrial nurses and consultants with the Ontario Society for Crippled Children. Can we expect a higher proportion with the present demand for nurses in other fields? We are at the crossroads and we need to evaluate our performance for effective public health nursing—as well as the program as a whole. To do this a continuous evaluation process must be built into our organization. We must have a readiness to eliminate the outdated, to delegate certain duties to auxiliary workers, to realign our services, and to set up new programs.

Whatever our next steps may be in public health nursing, we are aware that we need the understanding and support of well informed board members and of the public in general. We need their participation in the conduct of surveys and the formulation of policies. We need closer collaboration with all community health agencies if we are to attain our objective "the optimum health of all people".

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Problems in the Sanitary Control of Shellfish[1]

E. T. JENSEN[2]

THE shellfish sanitation program operated jointly by the states and provinces, the federal governments of the United States and Canada, and the shellfish industry, is an interesting example of a co-operative approach to the solution of a specific public health problem. This program, now 32 years old, has proved to be most effective in the control of communicable disease attributable to shellfish.

One might expect that a public health program which has reached this advanced old age would only be striving, against the law of diminishing returns, to achieve the last few percentage points to perfection, in a dotting of a final "i" and the crossing of a final "t". This is not the case! In fact, the technical and administrative problems which associate themselves with the program become increasingly difficult to solve.

What are these problems in shellfish sanitation? Before attempting to answer we should review the reasons for a specific shellfish sanitation activity. Most food sanitation personnel are generally familiar with the over-all organization and operation of the co-operative state-Public Health Service-industry program for the certification of interstate shellfish shippers, and many use the Public Health Service biweekly list of state certified shellfish shippers in their routine inspection work. However, we are frequently asked questions about program administration which indicate that the technical bases of this specialized program are not entirely understood. Why, for example, should a special sanitation program be necessary for shellfish when there is no such special activity for celery, whale meat, or thousands of other foods, the sanitary quality of which is amply controlled by the general food laws of the federal, state, provincial, and local governments? Secondly, we are asked why our program is limited to oysters, clams, and mussels, and does not include other shellfish.

The answers to these two questions are simple, and yet fundamental to an understanding of the current problems in the sanitary control of the shellfish industry. The shellfish sanitation program is unique because shellfish—as a food—are also unique! There is no other food which has quite the same potential for the transmission of disease. The growth tolerances of oysters, clams and mussels are such that they ordinarily grow only under the most optimum combinations of salinity, water temperature, and bottom configuration—a combination which is frequently found only in estuaries or protected

[1]Presented at the joint meeting of the Canadian Public Health Association and the Western Branch, American Public Health Association, Vancouver, B.C., May 20, 1958.

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coastal areas. Unfortunately, these same areas may also be convenient places for the disposal of sewage from coastal communities.

The public health significance of sewage pollution of shellfish growing areas becomes apparent when one considers the feeding mechanism of oysters, clams, and mussels, and the manner in which they in turn are eaten by man. The molluscs are plankton feeders and obtain their food by pumping large quantities of water over their filter-like gills where the suspended materials, including bacteria or other micro-organisms, are filtered out. This, together with the fact that shellfish may be eaten raw,[1] and that the entire animal, including the intestinal tract and its contents are consumed, explains why shellfish have a unique status as a food product and justifies a specific sanitation program directed at control of the shellfish industry. They also explain why we are not concerned with the sanitation of other shellfish such as crab or shrimp which are not eaten raw, and which are eviscerated before cooking.

Controlling the sanitary quality of the aquatic environment is, without question, the most important aspect of the shellfish sanitation program, and far outweighs any other single component of the control program. Sanitary handling of the shellfish during harvesting, processing and marketing are important considerations, but fortunately, the problems associated with shellfish processing and shipment are not substantially different from those encountered in other food plants.

The microbiological quality of shellfish is not the only public health reason for a specific control program. The unfortunate ability of shellfish to accumulate the very toxic paralytic shellfish poison has posed a real public health problem in the Canadian provinces and, to a lesser extent, in the West Coast states.

In the future, perhaps the very near future, we must face another problem that stems from our entry into the age of atomic power, i.e., contamination of our shellfish growing areas with radioactive materials. Shellfish growing in any areas so contaminated could probably be expected to contain the radioactive material and perhaps be unsuitable as a food product.

Knowing and understanding the public health background for a specific shellfish sanitation activity, we may then ask what problems are faced in the administration of the activity?

There are many unsolved problems—some new and some old! For example, we still do not understand the bacteriological relationships between water quality and shellfish quality, particularly on the West Coast of the United States and Canada where there have been few studies of the bacteriology of the commercial shellfish species. We know little of the relationship of shellfish to the viruses or the other pathogenic micro-organisms. The relationship of paralytic poison to the shellfish environment is virtually unexplored. The reaction of shellfish to the presence of radionuclides in growing area water is not understood, although a few investigators have started to probe into the problem. Even the food handling aspects of shellfish processing need investi-

[1]The cooking processes ordinarily used in the preparation of shellfish will not result in a sterile final product.

gation, although much progress has been made on this in the past three years for the Eastern oyster.

It is not possible to draw a sharp line of demarcation between the technical and administrative problems. Thus, there cannot be sound administration without sound technical information on which to base decisions. Conversely, the resurrection of technical information, essentially an administrative problem, is of vital concern to the investigator.

Probably the most difficult problem in the administration of shellfish sanitation activities relates to the more or less continuing decline in the impact of the program in relation to other public health activities. It has been many years since there has been a major disease outbreak due to contaminated shellfish in the United States or Canada. Consequently, it is increasingly difficult to obtain adequate budget support for the shellfish sanitation programs. This is not the fault of the administrators, who have the responsibility of obtaining maximum public health protection from a limited budget, however, in many instances this competition for funds has left shellfish sanitation programs in very precarious positions. Our sanitary survey requirements for growing areas give an example of how this may work. The population along the shore-line of our coastal regions is continually increasing. This means that additional shellfish growing areas become subject to sewage pollution, and that sanitary surveys must be more comprehensive to insure that sanitary closure lines will be located properly. The cost of such surveys are items to be reckoned with in any budget since boat operating costs are high and many man-hours may be required to complete a survey. The administrators must balance the increased need for funds for such surveys against existing fiscal resources and the equally pressing needs of other programs. Thus, the magnitude of the problem may increase at the same time that resources are decreasing.

A second difficult administrative problem is encountered in the over-all supervision of the co-operative-state-Public Health Service-industry program for the certification of interstate shellfish shippers. Under the operating scheme which was developed in 1925, the Public Health Service accepted responsibility for the development of sanitation standards and the periodic review of state programs. The fulfillment of this responsibility has turned out to be rather difficult. For example, if a change is to be made in the existing program standards, it is necessary to obtain the concurrence of officials in more than 40 different state and federal agencies. Any difference of opinion must be resolved through correspondence. There is no central regulatory board or body which has authority to initiate changes or to act as an umpire if there is an irreconcilable difference of opinion between two or more states or groups.

The obvious solution to this problem is to have representatives from each area meet and discuss the problems at yearly or biennial intervals. The Interdepartmental Shellfish Committee, which meets in Ottawa and its counterpart committee in British Columbia, apparently fill this need in Canada. It would be extremely difficult to organize such a group in the United States because most states have severe restrictions on the expenditure of funds for out-of-state travel and only the most important shellfish producing states could have representatives attend the meetings. It is particularly difficult to obtain repre-

sentation from the interior states since they generally feel that shellfish sanitation is not an item of major importance to them.

We now believe that the establishment of several regional shellfish sanitation councils, and perhaps the establishment of a small central advisory group will help to solve this problem. At least the regional meetings now held yearly in the Chesapeake Bay and Gulf states have apparently been very successful. An attempt is also being made to organize a West Coast regional shellfish conference which would meet each year to review shellfish sanitation problems on the West Coast.

In some instances a lack of interest on the part of public health administrators detracts from the effectiveness of the program. This is particularly true in the interior of the United States and may also be true in Canada. The effectiveness of the co-operative program is determined to a great extent by the thoroughness with which food control agencies in the shellfish importing regions check on the sources of shellfish. It seems to be easy for the food control agencies to lose sight of the fact that the certification status of suppliers of shellfish to restaurants and markets should be checked periodically against the most current list of certified shippers. If a local food control agency does not verify the certification status of shippers, or when such checks are not followed up, it becomes possible for a shipper to sell in an area although his certificate may no longer be valid.

Supervising the distribution of shellfish is a closely related administrative problem. It has been pointed out that shellfish may be contaminated in the growing area or during processing. There are also opportunities for contamination during transportation or other points in the marketing chain. For example, unless shucked shellfish are properly refrigerated, there will be a significant decrease in bacteriological quality as measured by coliform most probable numbers and/or standard plate counts. Thus, refrigeration of the shucked product appears to be an item of major importance in every step of the marketing chain from the time the product leaves the certified shucker-packer until it reaches a retail market or restaurant. It is obvious that the shipper cannot assume responsibility for refrigeration of his product through all of these steps. Official agencies then must assume the responsibility for assuring that wholesalers, retailers, and transportation firms provide adequate refrigeration.

Shell stock must also be protected from contamination during shipment to market and during handling by wholesalers, retailers and restaurants. In particular, wet storage of shell stock in tanks should be permitted only under the most rigorous control. This practice has been the most important factor in shellfish-caused enteric disease because such storage tanks may use polluted harbor water.

The technical problems faced in the shellfish sanitation program are, as previously pointed out, closely related to the administrative problems.

The most pressing technical problem now facing the shellfish control authorities is the evaluation of the impact of sewage treatment on the accepted techniques for evaluating the sanitary quality of shellfish growing areas. The present shellfish sanitation control program is based on the premise that the

sanitary quality of an area can be determined by appropriate sanitary engineering, hydrographic and bacteriological studies, and that the sanitary quality of an area will be relatively constant. The construction of sewage treatment facilities in many coastal cities has upset this premise. Thus, when a sewage treatment plant is functioning properly an area may be almost entirely free of pollution and thus meet the requirements for an approved shellfish growing area. However, if there is any interruption in treatment or if there is a significant reduction in the degree of treatment the area may revert to a polluted status within even a few hours or a day. As shellfish will reflect the sanitary quality of their environment within a few hours the importance of almost 100% effective sewage treatment is apparent.

The question then arises as to the technical or economic feasibility of constructing sewage treatment plants which will have the same degree of reliability as water treatment plants. An administrative procedure which will permit the harvesting of shellfish only when the sewerage system is functioning on its design basis has been developed as an alternative to the construction and operation of "perfect" sewage treatment works; however, our experience with this system, the Conditionally Approved Area, indicates that it will probably have limited application due to the need for strict administrative controls.

A thorough knowledge of the bacteriological relationship of shellfish to their aquatic environment is necessary if we are to make intelligent appraisals of the suitability of an area for shellfish culture. We must know the sanitary quality of water desirable for each species, the rate at which shellfish become polluted, and the rate at which shellfish cleanse themselves. Knowledge of the length of time that pathogens survive in sea water is a closely related need. Reliable bacteriological procedures are, of course, fundamental to any investigations of shellfish bacteriology. Considerable progress has been made toward obtaining such knowledge for the Eastern shellfish species; however, we have little knowledge of the Western species.

The lack of bacteriological data on West Coast shellfish species has hindered the orderly development of a shellfish sanitation program on the West Coast. In the absence of such information there has been no choice but to assume, right or wrong, that the Western shellfish species behave the same as the Eastern species. The recent joint establishment of a shellfish sanitation laboratory at Purdy, Washington, by the Washington State Department of Health and the Public Health Service should provide much new information on this subject in the near future.

An investigation of the ability of shellfish to purify themselves under artificial conditions is probably a priority need in some areas. In many respects the controlled purification of shellfish offers a public health safeguard comparable to the pasteurization of milk, and it is somewhat surprising therefore that it has never been widely used in the shellfish industry in the United States or Canada. Purification is, of course, now used in Massachusetts for soft clams, and is also used in England and Portugal for several other species of shellfish. The process has been investigated experimentally in the Maritime provinces, Maine, and Virginia and there is no question as to its technical feasibility. It is probably

only a matter of time until the public health profession will demand the controlled purification of most or all shellfish sold in this country. Perhaps if health departments had taken the same aggressive stand on controlled purification that was taken on milk pasteurization many years ago, we would now require that shellfish be given this final treatment before marketing.

The evaluation of bacteriological changes which take place in shellfish during harvesting, marketing, and processing is another area of technical concern. Investigation of these changes may ultimately lead to the establishment of bacteriological indices of quality for shellfish as they reach the market area. In fact, we now have a tentative market standard for shucked Eastern oysters. Such a standard is useful to official agencies and also to industry as a basis for quality control. The use of such standards enables food control officials in receiving areas to spot shippers having troubles with plant sanitation and/or in-transit refrigeration. In several instances the use of standards for shucked Eastern oysters has resulted in a significant improvement in the bacteriological quality of market shellfish. A realistic bacteriological standard offers a final check on the effectiveness of the certification program just as laboratory examination of milk gives a final check on all of the control procedures; however, it is not a substitute for all other control procedures.

The need for further research on paralytic shellfish poison seemed rather academic until last year. With the two outbreaks of paralytic shellfish poisoning in Canada during 1957 and the demonstration of poison in commercial oyster and clam producing areas in the state of Washington, the problem received a higher priority. Certainly, if the poison is again present in the commercial shellfish areas during 1958, there will be no question of the need for extensive investigations of its source.

There have been many investigations of the chemistry of paralytic shellfish poison and of assay procedures. Much remains to be learned about the marine organisms originally responsible for the poison and about the mechanism by which it is accumulated by shellfish. An understanding of the oceanographic conditions that cause the blooms of the responsible marine organisms is an even more fundamental need. An understanding of these several factors is essential to a good public health program for controlling the use of shellfish from areas which may contain the poison for a few weeks or months of a year.

The newest problem area is, to an extent, a problem of the future, i.e., radioactive contamination of shellfish growing areas. Several investigators have already demonstrated that shellfish and other marine plants and animals have the ability to concentrate radionuclides from the surrounding sea water. This ability seems to vary with the species of shellfish and the specific radioisotope. In some instances the concentration factor may have an order of magnitude of 100,000 to 1, but in other cases may be unity or less than unity. Similarly, the public health significance of the concentration of radionuclides by shellfish varies with the particular radionuclide and the point of deposition in the shellfish. For example, a radionuclide that becomes a part of the shell would seemingly have less public health significance than one which becomes a part of the muscle tissue.

These examples of technical and administrative needs give convincing

evidence that the shellfish sanitation program has not reached a plateau of knowledge from which only limited advances can be made. In fact, the situation would seem to be quite the opposite. If we are to stay where we are from the standpoint of public health protection, we must continue to advance on both the technical and administrative levels. In many instances the United States and Canada will find it mutually advantageous to co-operate in finding solutions to these problems.

These solutions may not be easy nor will they be found by any one small group working in any one area. Their solutions will depend upon the combined efforts of research groups at all levels of government, universities, industry, and private organizations. I feel certain that these problems will be solved and that shellfish will continue to be a safe element in our diets for many years to come.

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NOVA SCOTIA BRANCH

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Psychological Test Changes in Mentally Retarded Children During Training[1]

RUTH E. FRANCEY,[2] M.A.

THE project, a pilot study to determine the feasibility and advisability of a training program in the community for seriously mentally retarded children, began in June 1950, and concluded in June 1954 (1). The Stanford-Binet Test and the Vineland Social Maturity Scale were administered before and after the period of attendance as a means of evaluating the effects of training.

The training program was conducted in a day school operating for five half-days a week. The maximum number of children in the study at any one time was thirty, and the minimum number was twenty-two. Factors in selection were an I.Q. range of 40–50, and a chronological age range of 6–12 years. The thirty children initially selected could be placed into three groups of approximately ten each, on an etiological basis: endogenous, brain-injured, and mongoloid. The children were selected for this project on the basis of psychological and psychiatric examination at the Division of Mental Health, Department of Public Health, City of Toronto. All Stanford-Binet tests were done by staff psychologists in the Division who were not involved in the Training Program for Mentally Retarded Children. The children attending this program were not physically handicapped. Although the sample was small, it was adequate for a pilot project and largely representative of the population of Toronto proper, socially, economically, religiously and racially. A further characteristic of the group was the fact that, with two exceptions, none of the children had had previous school experience and only three had had any form of private tutoring.

The staff consisted of three instructors, who, in addition to teaching certificates, had some special training, experience and qualifications in teaching mentally retarded children. The senior instructor carried out a speech training program. A psychologist was employed full-time. There was a play training program which developed from individual sessions with each child into small groups of three to five children per session, in addition to the regular indoor playground period. A counselling service was provided in the afternoon for the parents, as well as monthly parent meetings during 1950–1953. There were three classrooms with approximately ten children to each instructor during the period of full attendance. The mongoloids were trained in the classroom as a group until the fourth year because they presented a severe problem in classroom discipline. They were encouraged to share all other sections of the program with the other children.

[1]Project financed by a National Mental Health Research Grant administered by the Department of Public Health, City of Toronto.

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Not included in the statistical results are four children whose attendance was brief. Two children left because of a change in residence. Two children had been taken on a trial basis to determine whether their limited ability would allow them to benefit from the program. The latter were rejected not on the basis of disruptive behaviour, but because of general lack of ability to benefit from the program.

Results

The Stanford-Binet test was administered to each child as part of the routine admission procedure, and again when the child left the project (Table 1). The

TABLE 1—Test changes according to Etiological Classification

Case No.	Years of Attend-ance	I.Q. on Entry	I.Q. on Leaving	Pt. Change in I.Q.	S.Q. on Entry	S.Q. on Leaving	Pt. Change in S.Q.	
1	4	39	41	2	45	50	5	
5	1	39	44	5	38	43	5	
7	0.6	49	43	−6	45	56	9	
12	4	53	57	4	40	58	18	
13	4	49	53	4	44	55	11	
18	3	38	35	−3	31	49	18	
19	1	51	51	0	46	47	1	
20	1.3	42	42	0	40	46	6	
23	2	36	43	7	33	55	22	Endogenous
24	2	45	42	−3	38	51	13	
25	1.5	42	42	0	50	48	−2	
26	3	46	43	−3	46	55	9	
31	1.5	54	50	−4	43	53	10	
36	1	45	41	−4	26	39	13	
39	3	48	56	8	31	50	19	
3	2.5	50	50	0	40	53	13	
8	4	57	53	−4	42	56	14	
9	4	38	35	−3	35	42	7	
10	4	44	41	−3	39	43	4	
11	4	39	43	4	29	45	16	Mongoloid
15	2	43	43	0	34	43	9	
29	3	30	32	2	29	37	8	
32	4	38	35	−3	29	49	20	
33	1.5	46	45	−1	51	51	0	
35	3	46	45	−1	36	47	11	
2	2	42	42	0	48	56	8	
4	3	45	43	−2	40	65	25	
6	1	44	50	6	45	55	10	
14	1	47	49	2	49	50	1	
16	2	43	43	0	33	45	12	
17	2.8	42	38	−4	32	39	7	
21	2.5	49	58	9	64	72	8	
22	0.6	45	57	12	39	56	17	
27	3	37	33	−4	31	41	10	
28	3	42	43	1	34	55	21	Brain-Injured
30	1	30	30	0	30	40	10	
34	1	37	68	31	45	63	18	
37	1.5	40	47	7	56	53	−3	
38	3	39	36	−3	32	48	16	
40	2.5	49	52	3	46	62	16	
41	4	53	50	−3	32	50	18	
42	3	44	41	−3	60	54	−6	

Note: The time of leaving does not mean necessarily the termination of the project, but that the child (1) reached the maximum age, (2) moved to another residential area, (3) was promoted to Opportunity Class, or, (4) was admitted to the Ontario Hospital School, Orillia.

Vineland Social Maturity Scale was scored on the basis of data obtained at the time of admission and administered in the usual parent-interview manner at the time of leaving the project.

As may be seen from Table 1 for all, except four children in the brain-injured category, the change in I.Q. is well within the standardized five-point range in either direction. The change in social quotient is much more dramatic in some cases, and indicates a rise in socialization equivalent with the intelligence rating. In some cases the change in social quotient is higher than the intelligence quotient at the conclusion of the project. Two explanations of this positive discrepancy are suggested: (a) The cases which show discrepancy, with the social quotient being higher than the intelligence quotient, have an etiology of brain-injury. There is the known possibility of under-functioning due to the problem of integration with an increase in functioning level and tested potential as a result of training. Case 34, for example, was re-evaluated on the Vineland one year after leaving the project and revealed a further rise of five points on the social quotient. Item analysis indicated maturation in areas of independence, including a self-obtained part-time job which this individual is still holding. (b) The factor of concreteness is operating. In other words, while the capacity for abstraction remains the same, training and opportunity for social experience appear to result in a maximal functioning level in relatively non-abstract situations. This may be facilitated by improved neighbourhood and interpersonal relationships on the basis of acceptable behaviour, and consequent self-confidence of the child.

The mean point change* in intelligence quotient is negligible, being 1.23, whereas the mean point change in social quotient is 10.64, which is statistically significant. Both changes are in a positive direction. The first confirms the reliability of the original intellectual assessment. The second supports observable evidence and other records on the project, that training is both effective and feasible at this level. Although in some cases the point change in social quotients reflects an improved adjustment limited to the family circle and immediate neighbourhood, even those children who were placed in the Ontario Hospital School, Orillia, gained in level of social adjustment.

Table 2 shows the mean and standard deviation for both I.Q., S.Q. and Kurtosis.‡

TABLE 2—MEAN, MEDIAN, STANDARD DEVIATION, AND KURTOSIS FOR I.Q.'S AND S.Q.'S

	$I.Q._1$	$I.Q._2$	$S.Q._1$	$S.Q._2$
C	3.69	4.88	−.0095	10.83
M	43.69	44.88	39.99	50.83
SD	5.37	7.50	8.62	7.43
MD	44.09	43.82	39.41	51.66
KU	—	—	.20	−.335

It will be observed that, even with a wide range and a few sharp, upward-climbing changes, the difference between the mean deviation of the intelligence

*Mean point change $= \frac{\sum(S.Q._2 - S.Q._1)}{N}$: $S.Q._1$ = S.Q. on entry; $S.Q._2$ = S.Q. on leaving

‡Test-retest curves on the Stanford-Binet and Vineland Social Maturity Scale were drawn but are not reproduced here.

quotients before and after training is .27 in favour of the initial test rating. This is in contrast to the much more marked change in a positive direction reflected by the difference between the mean deviations in the social quotients of 12.25. The latter reflect the effect of training upon social adjustment as measured by the Vineland Social Maturity Scale.

TABLE 3: PART A—NUMBER OF CASES SUCCESSFULLY PLACED IN OPPORTUNITY CLASS

Case No.	I.Q.[1]	I.Q.[2]	Pt. Chge.	S.Q.[1]	S.Q.[2]	Pt. Chge.	Placement
3	50	50	0	40	53	13	
6	44	50	6	45	55	10	
21	49	58	9	64	72	8	
31	54	50	−4	43	53	10	Opportunity Class
34	37	68	31	45	63	18	
39	48	56	8	31	50	19	
40	49	52	3	46	62	16	

TABLE 3: PART B—NUMBER OF CASES REQUIRING INSTITUTIONAL PLACEMENT

Case No.	I.Q.[1]	I.Q.[2]	Pt. Chge.	S.Q.[1]	S.Q.[2]	Pt. Chge.	
14	47	49	2	49	50	1	Brain Injured, Impulsive
15	43	43	0	34	43	9	Environment, Potential Social Problem
17	42	38	−4	32	39	7	Environment
18	38	35	−3	31	45	14	Program, Lack of Environmental Opportunity
19	51	51	0	46	47	1	Environment, Potential Delinquent
25	42	42	0	50	48	−2	Potential Destructive Impulsive
26	46	43	−3	46	55	9	Potential Sex Problem

Table 3 presents a brief summary of the two extremes of the group: (a) those whose functioning level improved with training in both intellectual effectiveness and social adjustment, such as to succeed in the special class in the grade school system; (b) those whose personality problems could not be completely resolved because of irreparable organic damage, environmental influences or inadequate home situation prior to entering the project. In most of these cases it was the kind of behaviour, not the severity, which presented a problem to community living.

DISCUSSION

One of the questions that are frequently asked is, "Does the I.Q. change with training?" As may be seen from Table 1 and Table 3, the answer is that it does so rarely, and that when it does, it serves to make one aware that the possibility of a significant change in intelligence rating exists and should be watched for. Generally, what actually happens is that the functioning level rises with training to match the intellectual potential. The dramatic change in Case 34 was a brain-injured child with speech aphasia, who had no opportunity outside the home until 11 years 6 months. Testing was difficult and functioning was inhibited by lack of opportunity. Actually, the psychological report suggested this possibility initially. The child had been rather well trained in some respects, and was able to make the most of the opportunity offered.

It will be noticed that the majority who have established themselves in Opportunity Class have not made major gains in I.Q. points, though there is a tendency to gain a few points in a positive direction.

It is pointed out here that the I.Q. range 45–55 and plus is no criterion by itself that a child is worthy or potentially capable of Opportunity Class. It is considered that such children who have succeeded in Opportunity Class are exceptions. The capacity for dealing adequately with the school playground situations, the capacity for stability, sense of responsibility and initiative, and for a generally acceptable demeanour, together with intelligence, were points in evaluating the promotions to Opportunity Class. Only one promotion was made on the basis of I.Q. rating alone. This child's failure, though tentatively expected, was not only rather disastrous for the child initially, but also made it temporarily difficult to obtain similar opportunity for more mature children with somewhat lower intelligence. The failure effectively faced the parent, who had pressed for such placement, with the truth of the situation, which had been avoided up to that time. The outcome of this placement was not really to anyone's advantage.

Concerning socialization, it will be seen from Table 1 that the present level of social maturity is comparable to the I.Q. range. The curve is rather skewed in a negative direction. An item analysis soon reveals the reason. Such items as being trusted to run errands to the corner store, or being able to get his or her own breakfast, or going to bed unassisted, etc., are individual achievements for which credit must be given. They do represent a certain level of maturity. But indications of maturity must be evaluated against an inability to play in the neighbourhood without supervision. Some of the over-scores represent just this type of individual adjustment. The point to be made here is that, while there is a decided improvement in the child's relationship to the family and even the neighbourhood, this improvement is stabilized by supervision of some kind.

The percentage of the group placed in the Ontario Hospital School, Orillia, at the termination of the project may be taken to represent the lower end of the success curve, just as the Opportunity Class placements represent the upper range of success. As in any type of program, total needs were met for the majority of the children, but the program could not meet some specifically individual needs. Placement was based not only on research program results, but on the individual child's capacity to adjust in terms of requirements laid down for protection of the community at large. Consequently, in terms of the set purpose of this project, the seven members of the program who failed to adjust to community living must be regarded as failures. This percentage is small. When one remembers the limited number of placements available in training institutions for mentally retarded children, the success of the project, in training thirty-four children or 80% of the group within the community setting, assumes greater significance on a long-term basis from the standpoint of economizing on institutional placement. From the standpoint of ensuring the opportunity for developing mental health in the normal children within the same family, such a facility in the community becomes even more practical. Perhaps it is on the point of guarding the normal child's development

by reducing home pressures resulting from a retarded child in an otherwise normal family, through such a training program as this, that the most far-reaching economic justification for a training program may be found.

Summary

The broad implication of this study is that the ineducable child may be trained to live happily and acceptably within the community. While a few proceed to a higher level of adjustment, including promotion to special class within the grade school system, the majority will always require supervision to some extent at home, at play and in a sheltered workshop. For an estimated 20%, either because of the nature of the problem or the effect of the kind of organic deficit, the community and child are best protected by placement of the child in an institution where special safeguards can be more easily provided than in a community, without restricting the child's opportunity for socialized achievement.

Specifically, the pre- and post-training scores on the Stanford-Binet intelligence test give no indication to warrant expectations for these children beyond the six- or seven-year level of development, except in rare cases.

Regarding socialization, the pre- and post-training scores on the Vineland Social Maturity Scale indicate that the potential functioning level, as measured on the Revised Stanford-Binet Test, may be achieved in terms of social maturity to a large extent by an adequate training program. From the practical point of view, this kind of training facility seems to be feasible, and is justified as a preventive measure to ensure opportunity for healthy emotional and mental development in the normal children in the families concerned. It also seems to offer a means of utilizing the institutional-type training program more economically.

As a future project, a follow-up study on the adjustment of the normal siblings of these children might be done in ten years' time with the co-operation of the members of this project.

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A Survey of Turkey Viscera for Salmonellae, British Columbia

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SALMONELLOSIS is one of the most important of the zoonoses in the world today (1). The primary reservoir of this group of organisms is the animal and avian species, both domesticated and wild. Fresh meat, prepared meats, avian carcasses and avian products, rather than fecal contamination, are probably the most prevalent sources of infection (2, 3, 4, 5). Animal and, in particular, avian sources of salmonellae should be continually checked for methods to eliminate spread of these organisms to the human population. Veterinary inspection of poultry processing plants, both in Canada and the United States, should reduce to some extent the possibility of avian carcasses being a source of human infection (5, 6).

It is a well known fact that a carrier state can exist in an avian population, but because of the comparatively low incidence of pullorum infection in turkeys in British Columbia (7), as well as other Salmonella species (table I), it should follow that the incidence of Salmonella organisms in processed turkeys should also be low. To determine if such was the case, it was decided to make a bacteriological survey of the viscera from a percentage of apparently healthy market-weight turkeys which were being processed for the Christmas trade.

Material and Methods

A portion of the intestinal tract, the liver, the spleen, the gonads and the lungs were collected from 1.0% of the turkeys processed in a poultry processing plant** under federal inspection during the months of November and December 1956. The tissues were placed in waxed freezer cartons, immediately frozen at the plant and subsequently removed to the laboratory and held at −25°C.

On the evening prior to the day of processing, the cartons were removed from the freezer and placed in the 4.0°C. refrigerator to thaw. Portions of each organ were cut into small pieces and two suspensions were prepared in sterile physiological saline in Tenbroeck grinders; the first included liver, spleen, gonads and lungs, and the second intestinal content. These tissue suspensions were then used to seed beef infusion and tetrathionate broths. After 18 hours incubation at 37°C., the growths in the beef infusion and tetrathionate media were inoculated to S.S. and MacConkey plates. Lactose negative colonies appearing on these plates were transferred to beef infusion broths and urea

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agar slopes. Urea positive colonies were discarded as being either *Proteus* or *Paracolobacter* species, while urea negative colonies were inoculated into key Salmonella biochemical media. Later the procedure was altered in that triple sugar agar media and Salmonella type "O" group antisera were used for screening, before checking the isolates on further biochemical media.

Organisms belonging to the genus *Salmonella* recovered from the specimen material were submitted for typing to the Salmonella and Shigella National Typing Centre, Laboratory of Hygiene, Department of National Health and Welfare, Ottawa, Ontario, through the Animal Diseases Research Institute, Department of Agriculture, Hull, P.Q.

Results

Five hundred and twenty-three specimens from 13 commercial turkey flocks representing 50,145 birds were processed. The specimens were collected as approximately 1% of each day's kill. The locations of the nine flocks in the Fraser Valley, an area of dense poultry population were: two from New Westminster, and one each from Langley, Newton, Aldergrove, Whonnock, Cloverdale, Coghlan, and Hammond. Of the interior flocks, two were from Hope and one each from Ashcroft and Princeton.

Six isolations of Salmonella species were made; five were identified as *S. derby*, (1,4,12; f,g,–) while the sixth, which was too rough for "O" determination indicated f,g,–"H" antigens. These six isolations were made from four birds (0.76%) representing three premises, two from the Fraser Valley and one from the interior of the province.

TABLE I—Salmonella isolated from animal and avian species in British Columbia 1954–1958[1]

Year	*Host Species*	*Salmonella Species*	*Area*
1954	Mink	*S. newington*	Fraser Valley
1955	Mink	*S. bredeney*	Fraser Valley
	Duck	*S. typhimurium*	Fraser Valley
1956	Duck	*S. typhimurium*	Fraser Valley
	Turkey(2)*	*S. derby*	Fraser Valley
	Turkey(2)*	*S. derby*	Interior
1957	Mink	*S. anatum*	Vancouver Island
	Pigeon	*S. typhimurium*	Fraser Valley
	Turkey(2)	*S. bareilly*	Fraser Valley
	Chicken	*S. typhimurium*	Vancouver Island
	Pigeon	*S. bareilly*	Fraser Valley
	Turkey	*S. typhimurium*	Fraser Valley
	Cow	*S. typhimurium*	Fraser Valley
	Pig	*S. cholera suis*	Interior
1958	Chick	*S. infantis*	Fraser Valley
	Mink	*S. typhimurium*	Fraser Valley
	Raccoon	*S. newport*	Howe Sound

[1]Federal and provincial animal pathology laboratory records.
*Survey isolations.

From available records (table I), it is evident that the incidence of and losses (7) from Salmonellosis in animals and birds in British Columbia were slight during the period 1954–1958.

As will be seen from table I, *S. derby* was not isolated from animal or avian species during the 1954–58 period except during the present survey. There had

not been any suspicions of losses from Salmonellosis in any of the three flocks involved. In checking over the B.C. Public Health Records (8) for the same period it was noted that the human incidence of S. *derby* was 1954–1; 1955–1; and 1957–3. The human isolations reported in 1957 have no apparent correlation with the avian isolations. The comparatively low incidence (0.76%) of Salmonella organisms in the processed birds appears to confirm our original suspicion, that in areas where little or no clinical evidence of Salmonellosis occurs in turkey flocks one would not expect to find a high incidence in processed products.

Summary

Viscera and intestinal content of 523 market weight turkeys were cultured for organisms belonging to the genus *Salmonella*. This represented 1% of the birds processed over a three week period in November and December, 1956, at one killing plant in Vancouver, B.C. under federal veterinary inspection. Four birds (0.76%) were found to be harbouring a Salmonella species identified as *Salmonella derby* (1,4,12; f,g–).

Sommaire

Des cultures des viscères et du contenu des intestins de 523 dindes ont été faites en vue de déceler les organismes appartenant au genre Salmonella. *Le nombre représentait 1% des oiseaux préparés durant une période de 3 semaines en novembre et décembre 1956, à un abattoir situé à Vancouver, Colombie Britannique, et soumis à l'inspection vétérinaire fédérale. Quatre (4) oiseaux (0.76%) ont été trouvés porteurs d'une espèce identifiée comme étant* Salmonella derby *(1,4,12; f,g-)* (Trad: Jean Marier).

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HEALTH EXHIBITS AND PUBLIC HEALTH EDUCATION

IN this issue of the Journal, Dr. Bruno Gebhard, director of the Cleveland Health Museum, outlines briefly the story of this unique institution and describes its work. The spade work in its establishment in Cleveland was begun in 1936 by the local Academy of Medicine and the Health Council members of the Welfare Federation. In 1940 the Museum of Health was opened through public support with more than 900 people contributing to the cost of the first year's operation. The Cleveland Museum of Health has attracted international attention. Great credit is due to Dr. Gebhard, not only for the success of the museum of which he is director, but also for the generous assistance which he has given to all who are interested in health exhibits as part of health education programs.

It has been said that the peoples of Europe are "museum-minded". Visitors are impressed not only by the number and importance of art galleries but by the many museums of natural sciences which frequently have health galleries. In addition, there are, also, a number of museums devoted entirely to the presentation of man's health. As early as 1930 the Health Museum in Dresden, Germany was known for its production of transparent plastic figures of life size illustrating the structure and functioning of the human body.

Too often, in North America, a museum is thought of as a collection of curiosities or relics of the past. The Cleveland Health Museum presents today's knowledge of the structure and functioning of the human body and of the effects of its environment. One of the most important functions of the Museum is the designing and construction of exhibits to present new subjects of health and hygiene with which the public are becoming familiar. Its program is truly effective in educating the public in matters of health. A health museum is not "a watered-down medical museum". The value of health exhibits is becoming appreciated on this continent. There are now four health museums in operation in the United States and health exhibits have been included in a number of science museums.

Last October the Ontario Medical Association conducted in Toronto a week-long exhibition called "Mediscope '59". The exposition was held in the Queen Elizabeth building in Exhibition Park. It was the first time in Canada that

"Mediscope 59"

Ontario Medical Association Toronto

Queen Elizabeth Building

Canadian National Exhibition

October 12 – 17, 1959

Photographs Courtesy Ontario Medical Review

a health exposition had been held and it was undertaken on a scale believed to be the largest ever attempted on this continent. Its purpose was to create better health practices among the people of Ontario by enlightening the public on how they can help prevent many of the common diseases and to show how newer knowledge, techniques and equipment are reducing, even eliminating, ill effects of disease and injury. There is still much ignorance of the care of the body and there is also fear on the part of many concerning examination and treatment. "Mediscope '59" was designed to break down this barrier between doctor and patient. In these objectives the Ontario Medical Association was eminently successful. The attendance exceeded expectations and frequently there were waiting lines for admission. More than 160,000 persons viewed the exhibits in conducted tours. Admission was free and there was no commercial advertising. Business and industry co-operated by underwriting in part the cost of producing the exhibits, the balance being met by the members of the Ontario Medical Association.

The exhibits were planned and prepared with great care and achieved a high calibre of excellence. The fifty exhibits presented all phases of medicine, the work of the allied professions and the contribution of voluntary and official health departments. The exhibits occupied a frontage of approximately a third of a mile. They unfolded the latest in medical techniques and industrial products used today in the treatment of illness and disease. The first place of importance was given to the general practitioner and portrayed the services of the family doctor. In close proximity to this exhibit was the work of the surgeon. In an eighty-foot-long horseshoe shaped exhibit, the birth of a baby was explained by doctors with the aid of special models and the importance of pre-natal care was stressed. In the cancer cyclorama, a large circular panel extending eighty-five feet, the history of man's search for the cause and cure of cancer and the extent of the present knowledge were most effectively presented. "Your Heart" was an exhibit that attracted particular interest. It showed how a normal heart works, what can go wrong with it and how advances in medical science provide treatment. Visitors participated by listening to their own heartbeat.

Home accidents, physical medicine and rehabilitation, medicine in sports, industrial medicine, the medical officer of health and mental illness were the subjects of some of the many other exhibits. Several displays provided information concerning careers in medicine and in the allied professions. In the commodious lecture hall, seating 1,300 persons, was the exhibit considered to be the feature attraction of the exposition—the "transparent talking woman" —a figure in glass and plastic especially constructed for this occasion by the curators of the Health Museum in Cologne, Germany.

Dr. Gebhard, in his article, speaks of future health museums. He hopes that on some university campus a permanent health museum might be established in connection with the training of teachers. Science museums are becoming increasingly popular as more and more use is being made of them by schools and the general public. Consideration might well be given to the providing of a health gallery containing exhibits similar to those which are proving so popular in the Cleveland Museum.

News Notes

National

The following candidates successfully completed the November 1959 examinations for the Certificate in Sanitary Inspection (Canada) and were granted their Certificate: *Robert Dunbar Boyd*, Banff, Alta.; *Frank Thomas Brown*, Angus, Ont.; *Stephen Chamut*, Nelson, B.C.; *Lionel Christian Richard Davis*, Prince Albert, Sask.; *Murray Fleming Fraser*, Saskatoon, Sask.; *Carolus C. Harmsen*, New Westminster, B.C.; *Hans-Lutz Heydemann*, Calmar, Alta.; *Oswald Trobridge Horton*, Nanaimo, B.C.; *Stanley David Husch*, Prince George, B.C.; *William Christopher Irwin*, Rosetown, Sask.; *Michael Leonard Knapik*, Mission City, B.C.; *Murray William Lewis*, Oromacto, N.B.; *Richard Francis McGrath*, Armdale, N.S.; *Kenneth Richard Martin*, Cloverdale, B.C.; *John Edwin Rayner*, Saskatoon, Sask.; *Vernon Ralph Robinson*, Weyburn, Sask.; *Denis Peter Schwinghamer*, Yorkton, Sask.; *Frank Anthony Sebastian*, Swift Current, Sask.; *Richard Earl Russell Tataryn*, Regina, Sask.; *Edmund William Bennett Withers*, Prince Rupert, B.C.

Federal

The subcommittee on Standards of Care of the Maternal and Child Health Advisory Committee to the Department of National Health and Welfare met in Ottawa Dec. 14 under the chairmanship of Dr. Jean F. Webb, chief of the Child and Maternal Health Division.

Dr. W. A. Prowse, chief of the Civil Aviation Medicine Division, conducted a conference in Moncton, N.B. in November on "Civil Aviation Medicine" for the civil aviation medical examiners of the Department of Transport.

Dr. E. A. Watkinson, principal medical officer of the Environmental Health and Special Projects Administration, Department of National Health and Welfare, attended sessions of the Food and Agriculture Organization ad hoc Expert Committee on Radioactive Materials in Food and Agriculture held in Rome, Italy at the end of November. Dr. Watkinson presented a paper on the public health aspects of radioactive waste disposal.

At the annual conference of the Canadian Association of Occupational Therapy held recently in Toronto, the Department of National Health and Welfare was represented by Dr. B. Primeau, medical consultant of the medical rehabilitation and disability advisory service division and by Mrs. Margaret Whitridge of the same division.

Dr. J. H. Grove, Chief of the Blindness Control Division of the Department of National Health and Welfare, was the recipient recently of a departmental presentation on the occasion of his retirement. Special tribute was paid to the high degree of leadership given by Dr. Grove, stressing particularly his work in initiating and promoting the treatment program designed to restore vision, where possible, to blind pensioners and in encouraging the establishment of glaucoma clinics.

Miss Eli Magnussen, Chief Nurse of the Danish Ministry of Health, who has been on a WHO Travelling Fellowship in the United States, visited the Department of National Health—Ottawa—early in December. While in Ottawa, Miss Magnussen participated in an institute conducted by the Canadian Nurses' Association and the Victorian Order of Nurses.

British Columbia

During 1958, 21 municipalities conducted referenda on the question of fluoridation. The 1960 municipal elections held in Dec. 1959 recorded only 4 plebiscites in Victoria, Oak Bay, Esquimalt and Saanich all of which comprise the Greater Victoria area and draw water from the same system. The City of Victoria recorded an adverse vote of 6,802 to 3,969 and the measure was later defeated in the other municipalities also. Of the total votes cast in the 4 municipalities only 37.4% were in favour of fluoridation.

Dr. P. W. Arkle, Regional Dental Consultant for Vancouver Island, has resigned to accept an appointment as Dental Officer for the Government of Tasmania.

Dr. J. M. Conchie, Regional Dental Consultant for the Fraser Valley Health Unit has accepted the additional appointment as Dental Consultant to the Handicapped Children's Registry in Vancouver.

Mr. H. Smith, C.S.I.(C) has been transferred from the Saanich and South Vancouver Island Health Unit to Terrace in the Skeena Health Unit.

Alberta

The Hon. Dr. J. Donovan Ross, Minister of Health, has announced a program to improve dental health particularly in rural areas. The program is the outcome of discussions among the Provincial Department of Public Health, the Alberta Dental Association and the Faculty of Dentistry of the University of Alberta. The program provides for the training of a new group of health

personnel to be known as Registered Dental Auxiliaries. A two year course at the University of Alberta will qualify them to make dental inspections, record dental needs, teach dental health and undertake the cleaning of teeth and the topical application of fluorides and to insert fillings into cavities already prepared by a dentist. They will be permitted to work only within the framework of public health and under the supervision of a dentist. They will enable the health units to accomplish a much greater volume of preventive dental work than is at present possible. Upon completion of three years service in the field the University of Alberta will allow certain credits to a registered dental auxiliary who wishes to return for training as a dentist. As an immediate measure to provide dental services in those health units which have no dentist, the Alberta Dental Association has invited its members to serve for two weeks each year with a mobile clinic, and many have already indicated their willingness. Until the first Registered Dental Auxiliaries graduate, a limited number of third-year dental students will have an opportunity to work with these mobile clinics during their summer vacation. To keep the clinics manned during the rest of the year it is hoped that arrangements can be made for each fourth year dental student to be attached for one month as part of his academic training.

Saskatchewan

Pre-natal classes commenced in Regina in November for residents of the city and surrounding rural districts. They are sponsored jointly by the Regina Rural Health Region and the Regina City Health Department with the approval of the Regina and District Medical Society. A year ago the Regina and District Medical Society appointed a medical advisory committee of Dr. L. E. Cowan, Dr. George Walton, Dr. T. M. Black, Dr. L. A. Cawsey and Dr. M. K. Dehnel to plan and organize the classes. A nursing advisory committee was chosen with representatives of the Rural Health Region, the City Health Department, the Regina General Hospital and Grey Nuns Hospital and the Victorian Order of Nurses. Miss Irene Hood has acted as co-ordinator of the committee. Provincial consultants Dr. S. C. Best, Dr. Leo Kawula and Miss M. E. Earnshaw assisted the committees. Each course consists of seven pre-natal classes. There are currently four series of classes in progress. Press, radio and television have given excellent coverage for the announcement of this new program.

Dr. Robert Woodrow, Portsmouth, England has been appointed Medical Health Officer of the Rosetown Health Region. He succeeds Dr. Czeslaw Lenk who was transferred to the Weyburn-Estevan Health Region. Dr. Woodrow is a graduate of the Edinburgh University and received the Diploma in Public Health in 1934. In 1939 he enlisted with the Royal Army Medical Corps, subsequently became Deputy Assistant Director of Hygiene on the Gold Coast and later, Assistant Medical Director of Medical Services for West Africa with the rank of Lieut. Colonel.

Dr. A. L. Swanson, superintendent, University Hospital, was elected president of the Saskatchewan Hospital Association at the annual convention which was attended by 400 hospital delegates. In all, over 800 people attended the various sessions.

Statistics of venereal diseases in Saskatchewan show that since 1947 there has been a sharp decrease in the incidence of syphilis but an upward trend in the incidence of gonorrhoea. Emphasis will be placed on the venereal disease control program in coming years.

Through the assistance of the W. K. Kellogg Foundation and the Saskatchewan Hospital Foundation a course for administrators of small hospitals (under 50 beds) is being provided by the University of Saskatchewan College of Commerce. Persons enrolling will take 26 study assignments through correspondence and will attend two types of intensive short course, one of 2–3 days at a selected community and the other of 10–14 days at the University. The program is designed not only to aid administrators but also to attract persons to the field.

Manitoba

Dr. M. Elliott, Deputy Minister of Health, and Dr. M. W. Kiernan recently visited Chalk River, Ontario to observe safety measures taken at the atomic energy research plant. A new nuclear research station is being planned for Manitoba.

Dr. K. J. Backman retired as Director of the Venereal Disease Control program in Manitoba, Dec. 31. He had officially retired in July 1954 but continued to serve as consultant. Dr. E. Snell, Director of the St. Boniface Health Unit has been appointed director to succeed Dr. Backman.

The Hon. George Johnson, Minister of Health and Public Welfare has announced the appointment of Dr. Carl Wood as Director of Standards under the Manitoba Hospital Services Plan. Dr. Wood will direct the activities of the hospital consulting and inspection services of the plan. These activities include nursing, pharmacy, dietary, medical records, hospital administration and accounting. Dr. Wood is a graduate in science and medicine from the University of Manitoba and served in the Canadian army

from 1935 to 1957 retiring with the rank of Colonel.

Dr. Hugh Malcolmson has been appointed as director of the new division of alternative care and elderly persons housing. The division will have the responsibility of licensing and establishing standards of nursing homes and institutions for the care of the elderly. It will also provide guidance to groups working with the aged and is another step in the program to provide adequate and proper housing for aged citizens. The act will permit the government to distribute an increased amount of grant money to approved housing projects.

A $7,500 grant has been made by the province of Manitoba to the Age and Opportunity Bureau to stimulate study and interest in the care of the aged.

Ontario

The Hon. Matthew B. Dymond, M.D., minister of health, recently officiated at the opening of a new laboratory building in North Bay to accommodate the work of the branch public health laboratory which has been conducted for the last 38 years in this city. The new laboratory is located on the grounds of the Ontario Hospital to which it is connected by a tunnel.

An announcement has been made by the dairy commissioner of Ontario, Mr. E. M. Biggs, of the formation of an Ontario Dairy Research Committee, with Dr. D. M. Irvine, head of the Department of Dairy Science, O.A.C., Guelph, as chairman and two representatives from the producers and processors. Among the subjects for study is decomposition of milk.

Miss Edna M. Squires retired in December from the staff of the Division of Public Health Nursing after 38 years of service. In 1921 Miss Squires joined the Department of Health, serving first with the Division of Industrial Hygiene and later with the Division of Maternal and Child Health and Public Health Nursing. Since 1952, Miss Squires had been assistant to the Director of the Division of Public Health Nursing.

The Ontario Division of the Canadian Arthritis and Rheumatism Society has published a plan for an intensified attack on arthritis during 1959–61. The Division proposes to undertake a major new project involving the establishment of regional special treatment centers for the in-patient care of selected patients presenting particularly difficult problems in diagnosis and treatment. It is expected that a sufficient number of these units for demonstration purposes can be created early in 1960 through the co-operative action of teaching hospitals, hospitals for the chronically ill and the Society. It is predicted that units established in London, Toronto and Kingston with a total of 75 to 100 beds will meet the initial need.

Quebec

A one day session on epilepsy was held under the auspices of Hotel-Dieu Hospital at Montreal and the Montreal Council of Social Agencies. The chairman was Dr. Charles Roberts, Medical Director of Verdun Protestant Hospital. The visiting lecturer was Dr. Harry Sands of the United Epilepsy Association, New York City. It is estimated that in Canada there are 170,000 epileptics and that 80% of epileptics can have their seizures controlled by modern drugs and thus be permitted to live normal lives. It was recommended that the committee work towards the creation of a bilingual and non-denominational center for epilepsy in Montreal.

Dr. W. Audet, D.P.H., a member of the Montreal Department of Health since 1951 has been appointed permanent District Health Officer in charge of the Saint-Jacques Health District.

New Brunswick

A refresher course for sanitary inspectors was held in Fredericton in October, 1959. The course was arranged by Mr. A. J. Cameron, Provincial Sanitary Engineer of New Brunswick. Mr. R. Donald McKay, Sanitary Engineer, Nova Scotia, took a prominent part in the sessions and spoke to a panel discussion on school sanitation. The guest speaker was Mr. C. R. Wilcox, Coldwater, Michigan, an authority on sanitary and public health engineering. He presented three lectures "Office Record-keeping for Sanitary Inspectors"; Rural Water Supply and Sewage Disposal" and "Small Treatment Plants". Legal proceedings were discussed by Mr. A. E. Wilby of the Provincial Department. A highlight of the sessions was a workshop on the sanitary inspector's role in civil defence conducted by Brig. W. E. H. Talbot, Deputy Civil Defence Co-ordinator for New Brunswick. Mr. J. A. McKeil, chief of the federal Zoonosis Laboratory, Ottawa, also contributed to the program. The sessions were brought to a close with a buffet supper in the student center at the University of New Brunswick. This was the first refresher course in the Maritimes and was sponsored by the New Brunswick Health and Social Services Department under a federal grant.

Nova Scotia

Miss Helen King, R.N., was recently appointed to the staff as a nurse and will receive her in-service training before going to the university. Her headquarters are in Bedford.

Books and Reports

ELEMENTS OF VITAL STATISTICS, *by B. Benjamin, B.Sc., Ph.D., F.I.A., F.S.S. George Allen & Unwin Ltd., London, England. 1959, 56s., 352 pp.*

Many readers will be familiar with a volume that is now out of print *Elements of Vital Statistics* by the late Sir Arthur Newsholme. Replacing this valuable work Dr. Benjamin, in attempting a revision, prepared virtually a new text, preserving, however, the same approach to the subject. The volume is intended for those not equipped for higher mathematical investigation and is written for the special use of medical officers of health and others engaged in public health and social work. The book is intended to supplement rather than compete with existing works on medical statistics. Special attention has been paid to practice on this continent and also to considerations of international comparability. Chapters include Population Census; Registration; Fertility; Mortality; the Measurement of Morbidity; Statistics of Infectious Diseases; Maternity and Child Welfare; Hospital Statistics; Cancer and Mental Health Statistics. It is a book which will be of real service to public health personnel.

PRACTICAL FOOD INSPECTION *(fifth edition in one volume) by C. R. A. Martin, M.B., B.S., D.P.H., F.R.S.H. H. K. Lewis & Co. Ltd., London, W.C.1. 1959, £3 3s., 656 pp., 179 illustrations.*

This important work was first published in 1932. In the earlier editions meat inspection was presented in one volume and fish, poultry and other foods in a second volume. In the fifth edition all the material is presented in one volume and much of it has been rewritten. New matter has been introduced also. *Practical Food Inspection* has become a standard work and students of public health in many lands are familiar with it. This volume will continue to be a valuable book in health department libraries in Canada.

REHABILITATION SERVICES IN CANADA, PART II, PROVINCIAL AND LOCAL PROGRAMS. *Health Care Series, Memorandum No. 9. Research and Statistics Division, Department of National Health and Welfare, Ottawa. Issued February 1959. 222 pp.*

Volume I presented a review of rehabilitation services in Canada. This volume describes provincial and local programs. In general, the outline for each province covers a general summary, historical development, provincial program for adults, rehabilitation services for workmen's compensation cases, special services for handicapped children, specific disability services and financial arrangements and costs. The Research and Statistics Division is to be highly commended on the preparation of this comprehensive survey which, with Volume I, gives an up-to-date review of rehabilitation services in Canada.

DIABETIC MANUAL *by Elliott P. Joslin, M.D., Sc.D. (tenth edition) Macmillan Co. of Canada Limited, Toronto. 1959, 304 pp., $3.75.*

The name of Dr. E. P. Joslin is known throughout the world as scientist, teacher, clinician and friend of all diabetics. This Manual is now in its tenth edition and throughout the years, it has enabled countless diabetics to carry on treatment intelligently and to live normal lives.

MANUAL OF CHEST CLINIC PRACTICE IN TROPICAL AND SUB-TROPICAL COUNTRIES. *A. J. Benatt, M.D. Published by E. & S. Livingstone Ltd. Edinburgh and London, and Macmillan of Canada. 1959, 100 pp., $1.80.*

This small book was prepared by a physician skilled in tuberculosis to assist those who are treating tuberculosis under difficult conditions in needy countries. The author spent six years in charge of hospitals in Italy, as leader of the UNICEF tuberculosis project for Thailand and as medical adviser on relief in Tunisia. He presents the organization of a chest clinic and the provisions for treatment of tuberculosis describing the essential techniques in simple language with suitable illustrations. This is a little book that fills a large need.